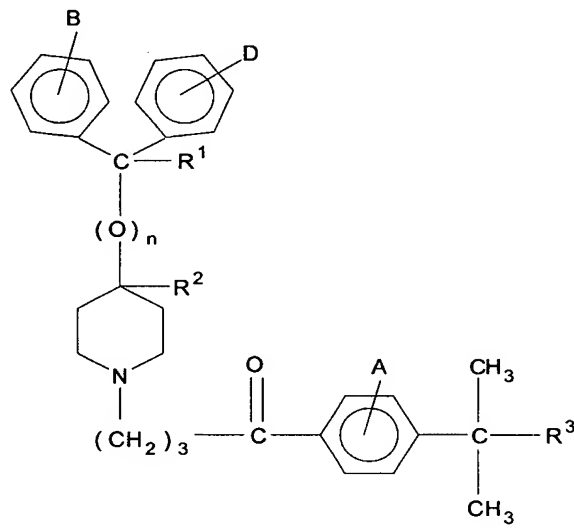


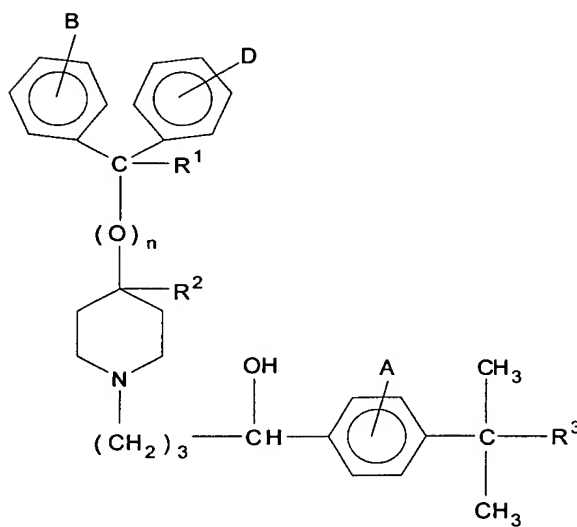
WHAT IS CLAIMED:

1. A process for production of a product compound having a structure according to Formulae IA and/or IB:

5



(IA)



(IB)

10

wherein

n is 0 or 1;

R^1 is hydrogen or hydroxy;

R^2 is hydrogen;

or, when n is 0, R^1 and R^2 taken together form a second bond between the carbon atoms bearing R^1 and R^2 , provided that when n is 1, R^1 and R^2 are each hydrogen;

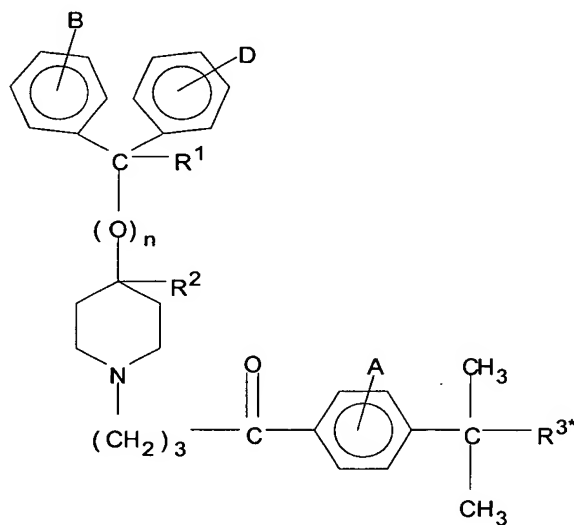
R^3 is $-\text{COOH}$ or $-\text{COOR}^4$;

R^4 is an alkyl or aryl moiety;

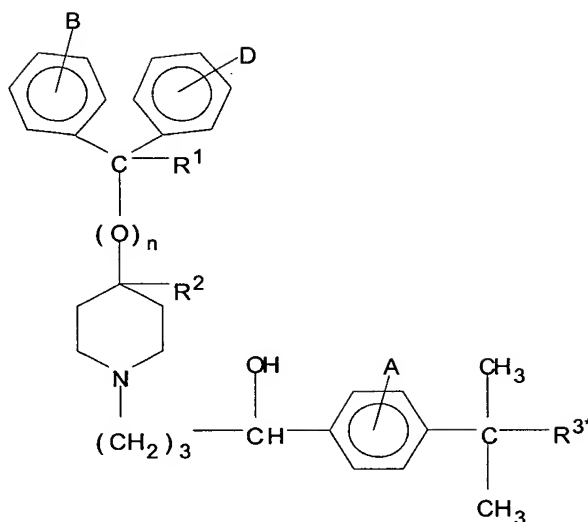
A, B, and D are the substituents of their rings, each of which may be different or the same, and are selected from the group consisting of hydrogen, halogens, alkyl, hydroxy, and alkoxy

, said process comprising:

incubating a starting compound having a structure according to Formulae IIA and/or IIB:



(IIA)



(IIB)

- wherein R^{3*} is -CH₃ and R¹, R², A, B, and D are defined above, in the
- 5 presence of a microorganism under conditions effective to produce the product compound, wherein the microorganism is from a genus selected from the group consisting of *Stemphylium*, *Gliocladium*, *Bacillus*, *Botrytis*, *Cyathus*, *Rhizopus*, *Pycniadosphora*, *Pseudomonas*, *Helicostylum*, *Mucor*, *Gelasinospora*, *Rhodotorula*, *Candida*, *Mycobacterium*, and *Penicillium*.
- 10
2. The process according to claim 1, wherein the microorganism is from the *Stemphylium* genus.
 3. The process according to claim 1, wherein the microorganism
 - 15 is from the *Gliocladium* genus.
 4. The process according to claim 1, wherein the microorganism is from the *Bacillus* genus.
 - 20 5. The process according to claim 1, wherein the microorganism is from the *Botrytis* genus.

6. The process according to claim 1, wherein the microorganism is from the *Cyathus* genus.

5 7. The process according to claim 1, wherein the microorganism is from the *Rhizopus* genus.

8. The process according to claim 1, wherein the microorganism is from the *Pycnidosphora* genus.

10 9. The process according to claim 1, wherein the microorganism is from the *Pseudomonas* genus.

10. The process according to claim 1, wherein the microorganism is from the genus *Helicostylum*.

15 11. The process according to claim 1, wherein the microorganism is from the *Mucor* genus.

12. The process according to claim 1, wherein the microorganism is from the *Gelasinospora* genus.

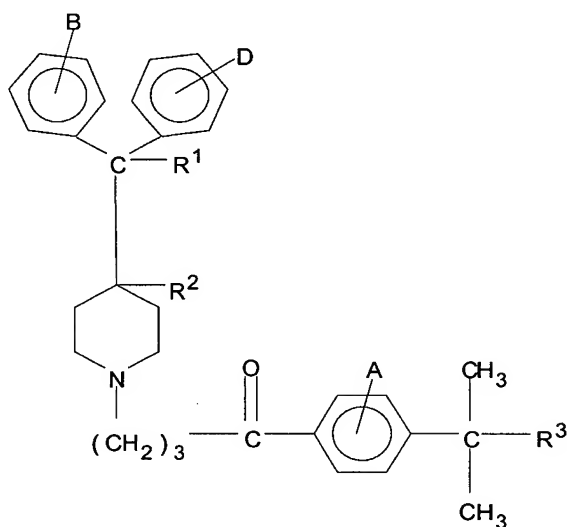
13. The process according to claim 1, wherein the microorganism is from the *Rhodotorula* genus.

25 14. The process according to claim 1, wherein the microorganism is from the *Candida* genus.

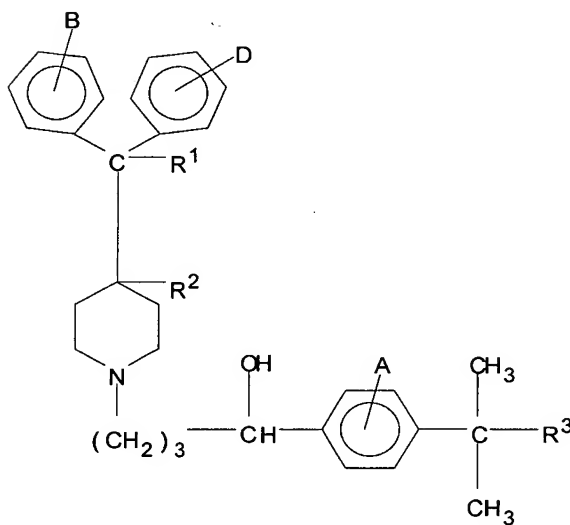
15. The process according to claim 1, wherein the microorganism is from the *Mycobacterium* genus.

30 16. The process according to claim 1, wherein the microorganism is from the *Penicillium* genus.

17. The process according to claim 1, wherein the product compound has a structure according to Formula IIIA and/or IIIB:



(IIIA)

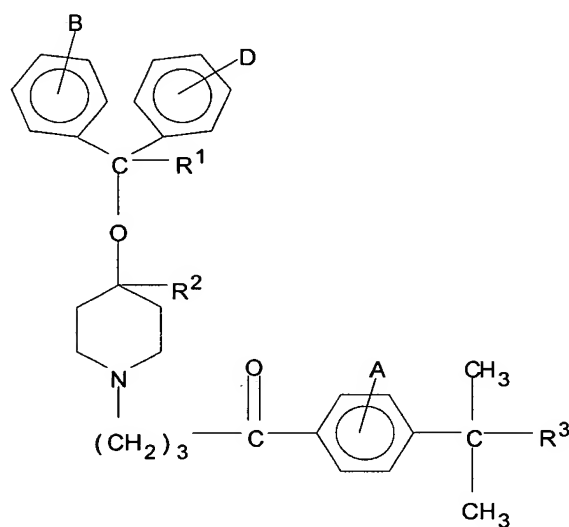


(IIIB)

wherein R¹, R², R³, A, B, and D are defined above.

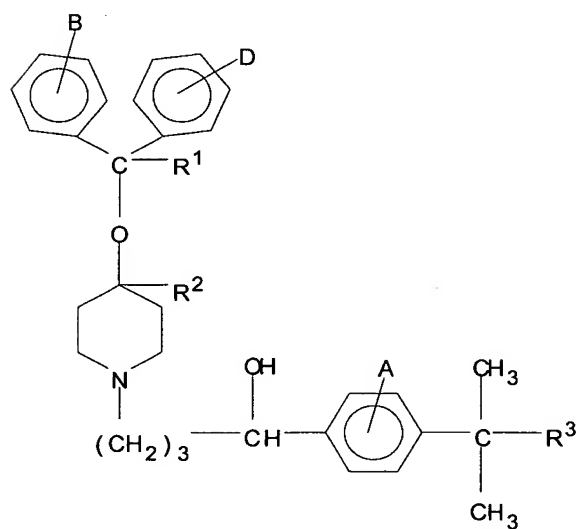
18. The process according to claim 17, wherein the product compound is 4-(4-(4-hydroxydiphenyl)-1-piperidiny)-1-hydroxybutyl)- α,α -dimethylphenylacetic acid.

5 19. The process according to claim 1, wherein the product compound has a structure according to Formula IVA and/or IVB:



(IVA)

10



(IVB)

wherein R^1 , R^2 , R^3 , A, B, and D are defined above.

5 20. The process according to claim 19, wherein the product compound is 4-[4-[4-diphenylmethoxy)-1-piperidiny]-oxobutyl]- α,α -dimethylphenylacetic acid.

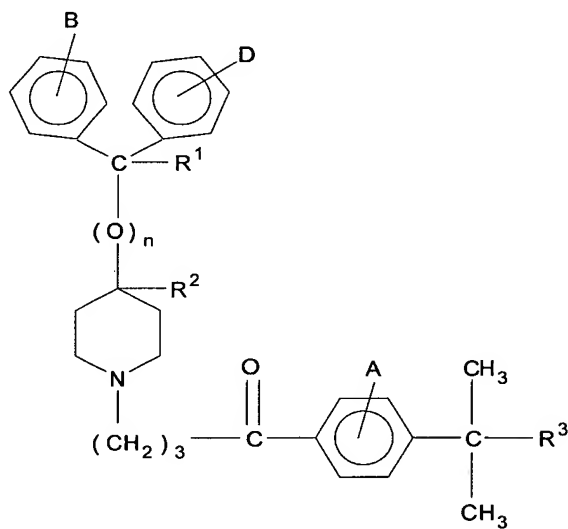
10 21. The process according to claim 1, wherein said incubating is carried out at a temperature of 20°C to 80 °C.

22. The process according to claim 1, wherein said incubating is carried out at a pH of 4 to 9.

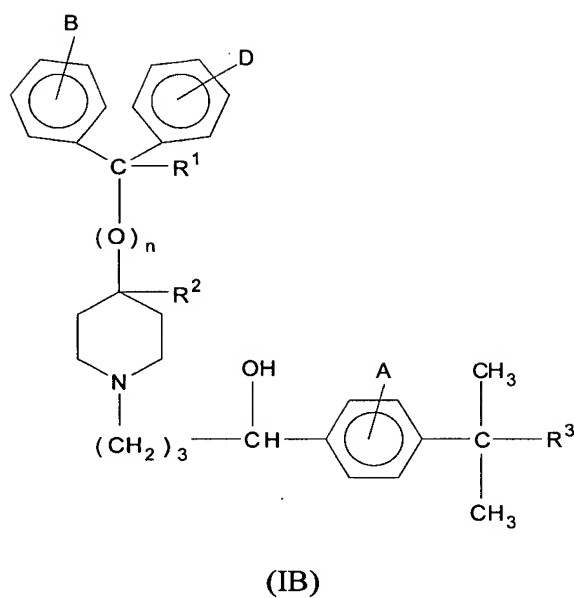
15 23. The process according to claim 1, wherein said incubating is carried out for a period of 2 to 240 hours.

24. A process for production of a product compound having a structure according to Formulae IA and/or IB:

20



(IA)



5

wherein

n is 0 or 1;

R¹ is hydrogen or hydroxy;

R² is hydrogen;

10

or, when n is 0, R¹ and R² taken together form a second bond between the carbon atoms bearing R¹ and R², provided that when n is 1, R¹ and R² are each hydrogen;

R³ is —COOH or —COOR⁴;

R⁴ is an alkyl or aryl moiety;

15

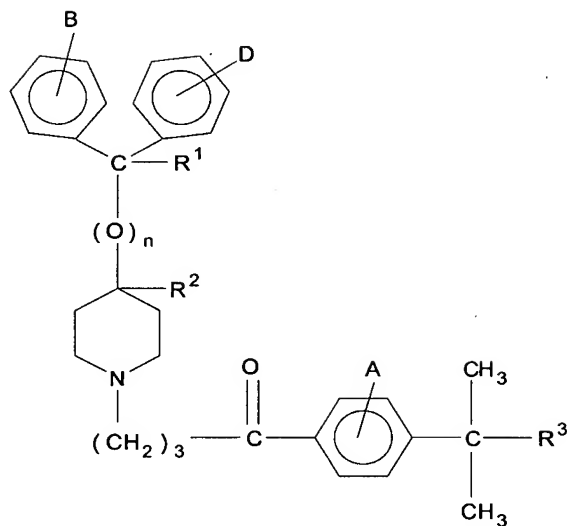
A, B, and D are the substituents of their rings, each of which may be different or the same, and are selected from the group consisting of hydrogen, halogens, alkyl, hydroxy, and alkoxy

, said process comprising:

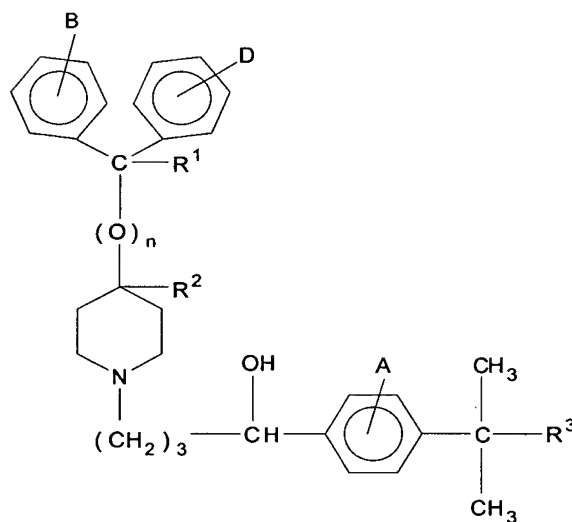
incubating a starting compound having a structure according to

Formulae IIA and/or IIB:

20



(IIA)

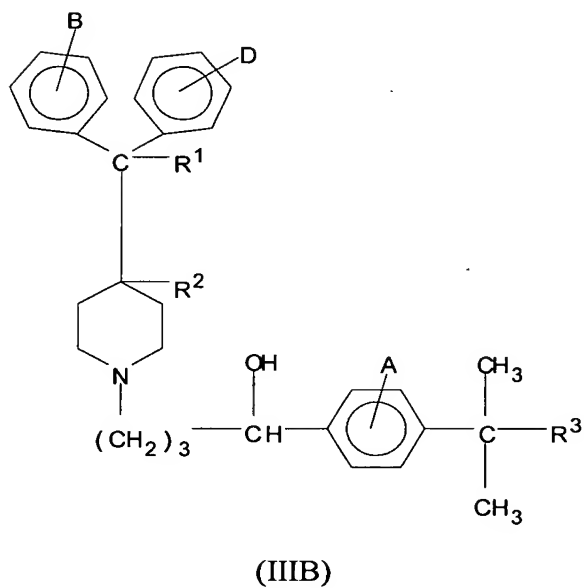
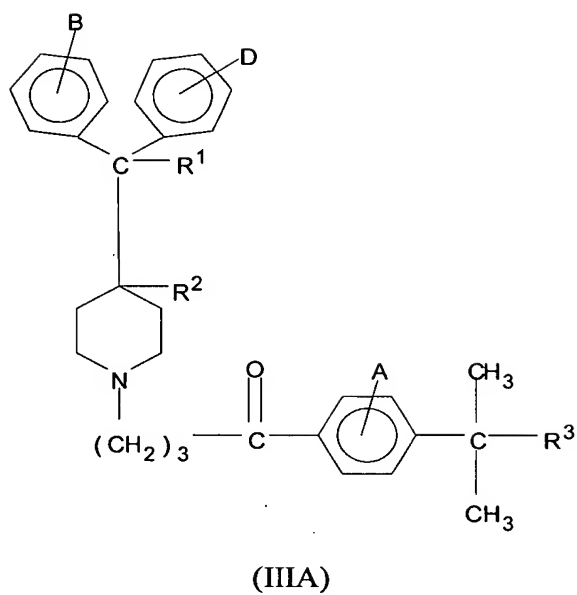


(IIB)

5

wherein R³ is -CH₃ and R¹, R², A, B, and D are defined above
in the presence of *Cunninghamella bainieria* under conditions effective to produce the
10 product compound.

25. The process according to claim 24, wherein the product
compound has a structure according to Formulae IIIA and/or IIIB:

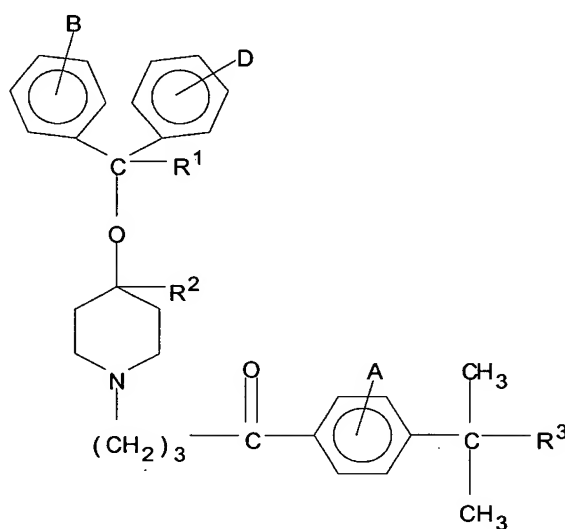


wherein R^1 , R^2 , R^3 , A, B, and D are defined above.

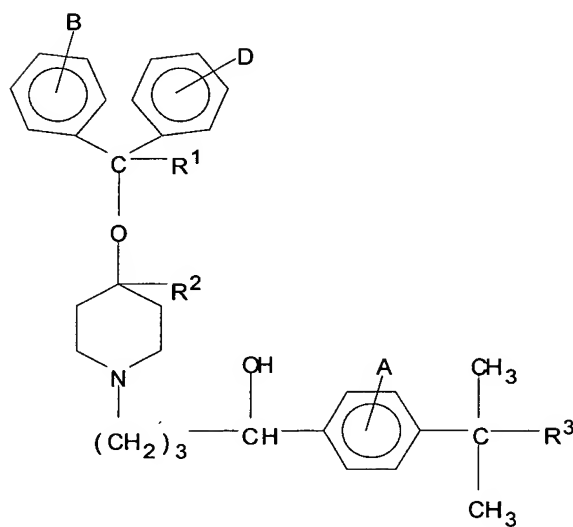
10

26. The process according to claim 25, wherein the starting compound is 4-(4-(4-hydroxydiphenyl)-1-piperidiny)-1-hydroxybutyl)- α,α -dimethylphenylacetic acid.

27. The process according to claim 24, wherein the product compound has a structure according to Formulae IVA and/or IVB:



(IVA)



(IVB)

wherein R¹, R², R³, A, B, and D are defined above.

28. The process according to claim 27, wherein the product compound is 4-[4-[4-diphenylmethoxy)-1-piperidinyl]-oxobutyl]- α,α -dimethylphenylacetic acid.

5 29. The process according to claim 24, wherein said incubating is carried out at a temperature of 20°C to 80 °C.

30. The process according to claim 24, wherein said incubating is carried out at a pH of 4 to 9.

10

31. The process according to claim 24, wherein said incubating is carried out for a period of 2 to 240 hours.

15 32. The process according to claim 1, wherein prior to said incubating, the microorganism is subjected to cryopreservation or multi-stage liquid culture induction.